FARO® Laser Scanner Focus^{S} 150

The world's most popular terrestrial laser scanner with ultra-high accuracy and ingress protection

ACCURACY
The Focus^{S} now captures environments with increased accuracy regarding distance, dual-axis compensator and angular measurement.

TEMPERATURE
Extended temperature range allows scanning in challenging environments - take your Focus^{S} to the desert or run a project in Antarctica.

ON-SITE COMPENSATION
With the on-site compensation functionality users can verify and adjust the Focus^{S} compensation on-site or in the office, ensuring the highest scan data quality. A comprehensive compensation document is automatically generated.

IP RATING - CLASS 54
With the sealed design, the Focus^{S} is certified with the industry standard Ingress Protection (IP) Rating and classified in class 54 against environmental influences.

HDR PHOTO OVERLAY
The HDR camera captures detailed imagery easily while providing a natural color overlay to the scan data captured under extreme brightness gradients.

ACCESSORY BAY
With this future-proof interface users can connect additional accessories to the scanner, which offers an option for user specific customization.

LASER SCANNER FOR MEDIUM-RANGE APPLICATIONS

The Focus^{S} series is the latest addition to FARO's popular, compact, lightweight and intuitive laser scanner product line. The devices of this series are the most forward-thinking laser scanners on the market, adding several customer-centric features, such as Ingress Protection Rating (IP54), increased scanning accuracy and range, an internal accessory bay and a built-in on-site compensation routine.

The Focus^{S} 150 combines all benefits from FARO's well-known Focus^{3D} Laser Scanners with today's most innovative features to perform laser scanning in both indoor and outdoor environments - truly mobile, fast and reliable.

The FARO Focus^{S} 150 provides the next level of laser scanning for all applications in industries like Construction, BIM/CIM, Public Safety and Forensics.

BENEFITS

- Scanning in rough environments while providing protection from dust, debris and water splashes
- Confident data quality through the on-site compensation
- Reality-like scan data by increased distance accuracy and angular accuracy
- Future-proof investment and expandability due to the integrated accessory bay
- Easy handling of scanner control through its large and luminous touchscreen

FARO® Focus^S 150

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PERFORMANCE SPECIFICATIONS

Ranging unit

Unambiguity interval: 614m for 122 to 488 kpts/s
307m for 976 kpts/s

Reflectivity	90% (white)	10% (dark-gray)	2% (black)
Range[1]	0.6-150 m	0.6-150 m	0.6-50 m

Ranging noise[2]	@10m	@10m - noise reduction[3]	@25m	@25m - noise reduction[3]
90% reflectivity	0.3mm	0.15mm	0.3mm	0.15mm
10% reflectivity	0.4mm	0.2mm	0.5mm	0.25mm
2% reflectivity	1.3mm	0.65mm	2mm	1mm

Measurement speed (pts/sec): 122,000 / 244,000 / 488,000 / 976,000
Ranging error[4]: ±1mm
Angular accuracy[5]: 19 arcsec for vertical/horizontal angles
3D position accuracy[6]: 10m: 2mm / 25m: 3.5mm

Color unit

Resolution: Up to 165 megapixel color
High Dynamic Range (HDR): Exposure Bracketing 2x, 3x, 5x
Parallax: Minimized due to co-axial design

Deflection unit

Field of view (vertical[7]/horizontal): 300° / 360°
Step size (vertical/horizontal): 0.009° (40,960 3D-Pixel on 360°) / 0.009° (40,960 3D-Pixel on 360°)
Max. vertical scan speed: 97Hz

Laser (optical transmitter)

Laser class: Laser class 1
Wavelength: 1550nm
Beam divergence: 0.3mrad (1/e)
Beam diameter at exit: 2.12mm (1/e)

Data handling and control

Data storage: SD, SDHC™, SDXC™; 32GB card
Scanner control: Via touchscreen display and WLAN connection. Accsess by mobile devices with HTML5

Interface Connection

WLAN: 802.11n (150Mbit/s), as Access Point or client in existing networks

Integrated Sensors

Dual axis compensator: Performs a leveling of each scan with an accuracy of 19 arcsec valid within ±2°
Height sensor: Via an electronic barometer the height relative to a fixed point can be detected and added to a scan.
Compass[8]: The electronic compass gives the scan an orientation.
GNSS: Integrated GPS & GLONASS

On-site Compensation Creates a current quality report and provides the option to improve the devices compensation automatically.

Accessory Bay The accessory bay is located on top of the laser scanner and is used to connect versatile accessories to the scanner.

CLASS 1
LASER PRODUCT

[1] For a Lambertian scatterer. [2] Ranging noise is defined as a standard deviation of values about the best-fit plane for measurement speed of 122,000 points/sec. [3] A noise-reduction algorithm may be activated by averaging raw data. [4] Ranging error is defined as a systematic measurement error at around 10m and 25m. [5] On-site compensation required. [6] For distances larger 25m add 0.1mm/m of uncertainty. [7] 2x150°, homogenous point spacing is not guaranteed. [8] Ferromagnetic objects can disturb the earth magnetic field and lead to inaccurate measurements. [9] Low temperature operation: scanner has to be powered on while internal temperature is at or above 15°C, high temperature operation: additional accessory required, further information on request | All accuracy specifications are one sigma, after warm-up and within operating temperature range; unless otherwise noted. Subject to change without prior notice.

GENERAL

Power supply voltage: 19V (external supply)
14.4V (internal battery)
Power consumption: 15W idle, 25W scanning, 80W charging
Battery service life: 4.5 hours
Operating temperature: 5° - 40°C
Extended operating temperature[9]: -20° - 55°C
Storage temperature: -10° - 60°C
Ingress Protection: IP54
Humidity: Non-condensing

Weight incl. battery: 4.2kg
Size: 230 x 183 x 103mm
Maintenance / calibration: Annual

ISO 9001 BUREAU VERITAS Certification

ANAB ACCREDITED

GSA Contract Holder

Global Offices: Australia ▪ Brazil ▪ China ▪ France ▪ Germany
India ▪ Italy ▪ Japan ▪ Malaysia ▪ Mexico ▪ Netherlands
Philippines ▪ Poland ▪ Portugal ▪ Singapore ▪ Spain ▪ Switzerland
Thailand ▪ Turkey ▪ United Kingdom ▪ USA ▪ Vietnam

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